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ANNUAL REPORT
UPON THE
HEALTHINESS OF THE
CITIZENS,
AND UPON THE
SANITARY CONDITION
OF THE
CITY OF NORWICH,
FOR THE YEAR
1905.



BY
H. COOPER PATTIN,

DOCTOR IN MEDICINE, MASTER OF ARTS, BACHELOR IN SURGERY,
AND A DIPLOMATE IN PUBLIC HEALTH OF THE UNIVERSITY OF CAMBRIDGE,
AUTHOR OF THE "RITUAL OF TEMPERANCE AND STATE HYGIENE,"
PHYSICIAN TO THE CORPORATION HOSPITALS FOR INFECTIOUS DISEASES,
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CITY OF NORWICH.

HEALTH COMMITTEE.

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E. T. BOARDMAN, Esq.

Chairman :

MR. ALDERMAN MORSE, J.P.

Vice-Chairman :

MR. COUNCILLOR A. M. STEVENS.

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MR. ALDERMAN WAINWRIGHT, J.P.	MR. COUNCILLOR MATTHEWS
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„ „ LT.-COL. HARVEY, D.S.O.	„ „ WITARD
„ „ HOLMES	

ISOLATION HOSPITAL.

Sub-Committee :

THE CHAIRMAN, VICE-CHAIRMAN,
MESSRS. DAY, HAVERS, HOLMES, MATTHEWS. MURRELL,
AND WITARD.

Mation : MISS WATKINSON.



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PREFACE.

TO THE CHAIRMAN AND MEMBERS OF THE NORWICH
URBAN SANITARY AUTHORITY.

GENTLEMEN,

By a General Order of the Local Government Board, dated 23rd March, 1891, it is prescribed that every Medical Officer of Health shall :—

Make an Annual Report to the Sanitary Authority up to the end of December in each year, comprising a summary of the action taken, or which he has advised the Sanitary Authority to take, during the year for preventing the spread of disease, and an account of the sanitary state of his district generally at the end of the year.

“ The Report shall also contain an account of the enquiries which he has made as to the conditions injurious to health existing in the district, and of the proceedings in which he has taken part, or advised under any statute, so far as such proceedings relate to these conditions.

“ Also an account of the supervision exercised by him, or on his advice, for sanitary purposes over places and houses that the Sanitary Authority have power to regulate, with the nature and results of any proceedings which may have been so required and taken in respect of the same during the year.

“ The Report shall also record the action taken by him, or on his advice, during the year in regard to offensive trades, to dairies, cow sheds, and milk shops, and to factories and workshops.

“ The Report shall also contain tabular statements of the sickness and mortality within the district, classified according to diseases and localities.

This Report is made in fulfilment of the above regulations.

The *birth-rate* for the year 27.5 per 1000 is again fractionally lower than that for 1904 (27.6), and also below the averaged birth-rate for the 76 great towns (28.1), which rate again is lower than that for 1904, viz., 29.0 per 1,000. This slight, but *progressive* lessening of the birth-rate is a factor which cannot safely be ignored in estimating our racial prospects. In our own city the births of 162 illegitimate children were registered, 24 more than in 1904. There were 109 more of male than of female children born : in 1904 there were 82.

The gross recorded *death-rate* 16.4 is higher than that for the 76 great towns considered together, viz., 15.7 per 1,000. (The deaths of 41 non-residents are included). The “corrected death rate” is 15.5 per 1,000. In 1904 our death rate was 18.2, and that for the 76 great towns 17.2 per 1000. The average Norwich death rate for the preceeding five years has been 17.2

The *zymotic death rate* for the year is 1.5 per 1000. In 1904 it was 2.8. The corresponding rates in the 76 great towns are 1.8 and 2.4 per 1000. This is, despite our high death rate from summer diarrhœa, a satisfactory feature of the report. The fall in Norwich being 1.3 per 1000 in the 76 great towns 0.6

The *infantile mortality rate* is 174 per 1000 births, and constitutes the most unsatisfactory feature in our annual health report. The corresponding (averaged) rate in the 76 great towns was 139 per 1000 births. In 1904 these rates were 179 and 160 respectively, so that whilst there has been a fall in the Norwich rate of 5 per 1000 births, in the 76 great towns the lessening has been no less than 21 per 1000 births. Our figures represent an infantile mortality rate which merits special consideration. I cannot state here all the factors which, in my judgment, contribute to this persistently high infantile mortality rate. Some are very obvious, e.g., zymotic diseases, inclusive of diarrhœa, account for 137 or nearly one-fourth of the deaths of children under one year of age. The diseases classified by the Local Government Board as "Wasting Diseases" (see special table where these infantile deaths are classified in accordance with the L.G.B.'s tables) account for 202 or nearly two-fifths. Premature Births of which 77 were registered are, as will be seen, classified as "Wasting Diseases." Tuberculous Diseases account for 24 of the deaths, "Convulsions" for 36, Respiratory diseases for 98, and "Debility, Atrophy and Marasmus" (wasting diseases) it will be seen account for 106. As in previous years I am concerned with the number of deaths attributed to "Premature Birth," and "Debility," because these suggest, and strongly, pre-natal conditions of an unfavourable character. Some few of the parents undoubtedly are very young, but many more, it is to be feared, are relatively underfed. Some of the parents are of feeble constitution, and many of the mothers must, one thinks, induce in themselves undesirable debility, e.g., by working during the later stages of pregnancy. I feel impelled to go on calling attention to these considerations because well-meaning but irreflective philanthropists appear so pertinaciously to assume that infantile mortality is due almost entirely to the

improper feeding of the infants. It clearly is traceable also to such causes as those mentioned. We cannot profitably confine our attention to results in dealing with infantile or other mortality but must endeavour rightly to estimate the relative importance of the antecedents to death—the community being, as Burke expresses it, “A partnership not only between those who are living, but between those who are living and those who are dead, and those who are to be born.” Considering the infantile mortality in fuller detail, it has to be noticed that in the first quarter of 1905 (January 1st to March 31st) it amounted to 197 per 1000 births; the average for the 76 great towns being 127 per 1000 births; for the second quarter of the year (April 1st to June 30th) it was 93 per 1000 births, the average for the 76 great towns being 112 per 1,000 births; for the third quarter (July 1st to September 30th) it was 275 per 1000 births, the average for the 76 towns being 186, and for the last quarter (October 1st to December 31st), it was 130 per 1000 births, that for the 76 towns taken together being 134 per 1000 births. Taking our worst quarter, the third, out of the 213 deaths registered and classified in accordance with the Local Government Board table, 115 were due to “Diarrhœal Diseases,” 63 to “Wasting Diseases” (made up of 24 to “Premature Birth,” 20 to “Debility from Birth,” 9 to “Marasmus,” 3 to “Malassimilation,” 4 to “Asthenia,” 1 to “Malnutrition,” 1 to “Want of Breast Milk.”) 8 to Congenital causes, 6 to Tuberculous Diseases, 13 to “Convulsions,” 5 to Respiratory Diseases, and 3 to other causes. Of the 115 deaths due to Diarrhœal Diseases, 106 were certified to be due to Diarrhœa proper, 4 to Enteritis, 4 to Gastro-Enteritis, and 1 to Gastritis. I give these particulars because they show clearly that apart from the specific zymotic ailment (Diarrhœa) associated with the hot season, roughly one-half of the mortality has necessarily no special associa-

tion with the weather; and because I think they show also very clearly the lines upon which any preventative measures we may adopt must be projected; and these are the inculcation of cleanliness in the home, as well as about the dwelling, special attention being given to the treatment, storage, etc., of food, and in particular of milk; In the absence of rain, systematic flushing of drains and prompt removal of refuse of all kinds inclusive of dust. Instruction of mothers in the proper feeding of themselves in the pre—as well as the post—natal periods, and of their infants, more particularly if this cannot be done by the breast—in brief, education in the simple principles of household cleanliness and in the hygienic treatment of food. Whilst I am by no means despondent about the practicability of getting improvements effected in these directions by the existing generation of housewives and mothers, I confess frankly that I do not expect any striking results from the efforts we now make by means of visits from the Lady Inspector, distribution of instruction about feeding of infants, etc., until we succeed in altering the racial attitude toward the obligations of maternity (and of paternity) and substitute for the largely prevalent carelessness and disinclination to take trouble, a consciousness that the care of a child is a trust precious for the race, and that to discharge that trust with fidelity is as patriotic a service as can be rendered to the state.

In connection with this matter of infant uprearing, Miss Hatton, our Lady Inspector, has been very assiduous and energetic in visiting houses, conferring with mothers, and in distributing printed instruction for the feeding of hand-reared children, etc. Between the date

of her appointment to the end of the year, Miss Hatton visited 2786 dwellings, and revisited 476. She saw 1329 infants, and of these she found 238 more or less ill. 912 were at the time of her visit being fed from the breast ; as Miss Hatton calls as soon as possible after a birth is registered, this is a number which probably is very considerably reduced a few weeks later ; 136 of the infants being fed with sop, 218 fed with *long tube* bottles, and 83 with *short tube* bottles. I think this excellent work would be made more valuable if a greater amount of revisiting could be effected—particularly during the July-September quarter. By my express wish, Miss Hatton endeavours to impress upon mothers the vital importance of protecting from contamination the domestic supply of milk. During the hotter portion of the year and to a lesser extent since, with the sanction of the Committee, I have distributed through Miss Hatton a considerable quantity of dried milk powder to necessitous mothers, and, on the whole, have been well satisfied with the results.

I have differentiated out last year's infantile mortality rates for all the streets of the city. The results are very interesting, and perhaps to most people would be surprising, but I do not publish them in detail here because, unless I could give at least an average of five years, inferences would be drawn which necessarily would be unreliable if not actually misleading :—so many qualifications relating to the age etc., distribution in the various streets need to be taken into account. But the bare figures by no means show that the poor districts have excessive infantile mortality figures. Among the influences affecting detrimentally not only the newly-born, but their mothers, both prior and subsequent to giving birth to their infants, which cannot be neglected, are damp, badly-ventilated, and

especially relatively sunless houses ; if these in addition be crowded internally or cramped for air-space externally their lowering influence upon the general standard of healthiness is greatly augmented ; and anything which tends to lower the standard of healthiness in the mothers necessarily tends to favour the production of children debilitated from birth. In this direction the work of the Courts and Yards and of the Housing Committees in endeavouring to improve the surroundings as well as the homes of our poorer people more and more will exert a beneficial influence alike upon "those who are living and those who are to be born." During the year I certified that seven houses were, in my judgment, unfit for human habitation, and I regret very much to have to say that an application to have a practically sunless house, without any through ventilation closed, was not granted by the magistrates. In my opinion a house which gets no sun cannot possibly be deemed to be a healthy dwelling. Whilst the total infantile mortality rate was 5 per 1000 births less than last year, the special infantile mortality rate for illegitimate children was 112 per 1000 births lower than in 1904. In over 500 of the deaths of infants about which enquiries were made, the rate of those insured at the time of death was 51 per cent.

The gross death rate from all the Tuberculous diseases was much below that for 1904—the actual figures being 1.9 per 1000 of the population at all ages for last year and 2.3 per 1000 for 1904. The special death rate from Phthisis (Tuberculosis of the Lungs) was 0.1 per 1000 less than in 1904, the figures being 1.3 and 1.4 per 1000 respectively. On the other hand the general death rate from respiratory diseases (excluding Phthisis) was higher than in 1904. The death rates from Diarrhoeal Diseases, and from Diphtheria

were the highest for the last three years. The heightening of the rate in Diphtheria being due to the relative severity of the disease, and chiefly to paralysis of the heart—an unusually large number of the cases succumbing from this cause. Against the paralyses which follow Diphtheria anti-Toxine confers no immunity, at any rate in those cases which are treated at the Isolation Hospital, and which, usually, do not come into that institution in the earlier stages of an attack. The efficacy of the anti-toxic treatment of this disease varies in an inverse ratio with the time which is permitted to elapse between the onset of the ailment and the application of the antidote. The death rates from Alcoholism (including under this heading all deaths attributed to Cirrhosis of the Liver) and from Venereal diseases were slightly lower than in 1904.

The average number of patients in the Isolation Hospital per day throughout the year was 22, and the average length of stay of each patient 39 days. The average number of the nursing staff was 15, and the average domestic staff 11. During the year the want of more isolation wards has been felt with increasing insistence ; indeed, the provision of these has become a matter of great importance if the Hospital is to be of the highest utility. The absence of a Convalescent Home, or of a specially constructed pavilion for convalescent patients is also a drawback. Whilst isolation has been proved to be the right method of dealing with infective diseases, the practice of mixing a number of persons in different stages of the same disease in large common wards is steadily to be discouraged. It is quite true that the provision of common wards has had the sanction of the Local Government Board when considering applications for loans for the erection of Isolation Hospitals, but I think we may anticipate

a change in the official outlook, as the experience of those who have to administer, Isolation Hospitals, so constructed, is directed to the matter of ward construction. The common ward system substitutes for the true principle—isolation—something very much less efficient—isolated aggregation. Only one elementary day school had to be closed on account of infection among the scholars, and although I cannot acquit the Sunday Schools of acting as propagating agencies in the dissemination of infectious ailments I am pleased to record, on the whole, a distinct improvement. At the same time, I remain strongly of opinion that all Sunday Schools ought to be subjected to a sanitary control as to crowding ventilation, floor space, etc., of a character analagous to that which obtains in the day school.

The Midwives Act came into force on the 1st of April last year, and necessarily has added to the work of the public health department. The Act being new I have not felt myself entitled to apply it otherwise than with consideration for those affected and with reasonable tact ; as time progresses I shall feel all the more entitled to demand rigid compliance with all its requirements. For the past year I have contented myself with registering those midwives who (being eligible for admission to the register) wished to practice as such in the City ; with advising them as to the care of their hands, clothes, etc., with inspecting their case books, bags of instruments, and through the Lady Inspector, their bedrooms, etc. There are nine midwives on our register, and all of these I find now wear washable clothing, when in attendance upon cases ; in two or three instances I have had to request more careful attention to the nails. But, with one exception, the record on the whole has constituted a very satisfactory beginning. The exception I need not particularize as the conduct of this midwife will occupy the attention of the

Central Midwives Board shortly. The effect of the Act cannot fail to be beneficial to the health and well-being of those parturient women who depend largely at childbirth upon the services of midwives. Women practising as midwives under the new Act inevitably will tend to become more highly trained and more shining examples of hygienic cleanliness than the Mrs. Gamps of unsavoury traditions. I believe that this Act, administered carefully, will spare many lives, and save many families from the desolating loss, and the state the drain of racial vitality which is involved in the untimely death of mothers in childbirth. I received 37 notifications of still-births during the year from midwives.

The Report of the Public Analyst shows that some improvement is being effected in the quality of the milk supplied to the city. I think the more stringent penalties which ~~the majority of~~ the magistrates now inflict for adulteration of milk, have been of distinctly beneficial effect, and hope that in the future the influence will rather be made more stringent than relaxed. Certain it is that few anti-social offences deserve severer punishment than the wilful lessening of the food value of milk. In an increasing number of the samples analysed last year, the Board of Agriculture's standard for cream was well maintained, and, in a considerable proportion of the samples, exceeded.

The Chief Sanitary Inspector in his report gives an account of the practical work carried out during the year, and summarises what has been done to maintain a sanitary condition, and to improve the general state of dairies, cowsheds, milk-shops, slaughter-houses, and common lodginghouses, etc. He also records the changes which have been effected in the character of the closet accommoda-

tion, from which it will be seen that the change to a water-carriage system is being effected "without haste and without rest." The Factory and Workshops Act continues to provide a very considerable amount of work for the department, apart from the inspection of the homes, etc., of male and female outworkers. The Canal-Boats Inspector reports that there are fifty-three boats now on the register, three being registered last year. With one exception, which is receiving attention, his report constitutes a satisfactory record of the condition of the water craft under our sanitary control and supervision.

I include as in previous years the statistical table showing the number of tenements in the City at the 1901 census and the tenements of less than five rooms (differentiating those occupied by varying numbers of persons) in the wards of the city. During the year an admirable Life Table for the City was issued, by direction of the Health Committee. This Life Table was constructed for me by Dr. Tuxford (lately my assistant and deputy) to whom I am also indebted for assistance in the preparation of the statistical portions of this report.

Signed

HARRY COOPER PATTIN.

March 13th, 1906.

METEOROLOGICAL NOTES, 1905.

By MR. A. W. PRESTON, F. R.Met.S.

(From observations taken at Brundall, near Norwich.)

Barometer (reduced to sea level and 32deg. Fah.), from 9 a.m. and 9 p.m. readings :—	{	Highest (Jan.29th) .. 30.87 ins. Lowest (Nov.26th) .. 28.91 ins. Mean .. 29.978ins.
--	---	---

Temperature—Maximum (July 14th)		82.6 degrees
Minimum (January 2nd) {	in screen	21.4 „
„ „ {	on grass	15.8 „
Mean daily maximum		55.8 „
Mean daily minimum		42.2 „
Mean temperature of year		49.0 „
Mean daily range		13.6 „
Mean dry bulb (9 a.m.)		49.8 „
Mean wet bulb (9 a.m.)		47.1 „
Mean dew point (9 a.m.)		44.3 „
Mean relative humidity (9 a.m.)		83%
No. of nights with {	in screen	52
frost {	on grass	103

Rainfall—Total fall		22.96 ins.
Below average by		3.22 ins.
Greatest fall in one day (Sep. 24th)		1.05 ins.
Number of days on which rain or snow fell		205
Number of days on which snow fell		15

Wind—Prevailing directions, w., n.w., and s.w. Gales on 20 days.

Summary of the Geology of Norwich.*

THE geological construction of the soil underlying the City is simple in character. The higher levels are made up of glacial beds, through which the valleys have been excavated, exposing at their margins the crag formation and chalk, while gravel and alluvial deposits occupy the lower ground. The chalk, which at Norwich is nearly 1,200 feet thick, and underlies the whole of the City, comes to the surface in the Market Place, and in other places at a similar level; but it may be reached at no great depth in all parts of the Municipal area. The order of the succession of the glacial and crag beds is shown in excavations on the sides of the high ground surmounted by Mousehold Heath, between which Heath and the City proper winds the River Wensum. Except for some layers of peat in the valley, and a bed of brick-earth over part of the higher ground (as for example, near the Victoria Station), the soil of the City is of a porous character, and much percolation of fluid takes place through the gravels, etc., into the chalk. The general trend of the drainage of the greater portion of the inhabited area of the City is toward the Wensum.

* Compiled from information contributed by Mr. F. W. Harmer, F.G.S.

DEMOGRAPHICAL STATISTICS.

<i>Enumerated Population at the Census of 1901</i>	..	..	111,728
<i>Estimated Population in the middle of 1905</i>	..	..	116,741
<i>Area in Statute Acres</i>	..	..	7,582
<i>Density of Population (i.e., number of persons per acre)</i>			15.4
[Rateable value £439,481]			
<i>Total number of Births registered in 1905</i>	..	..	3,205
<i>Representing a Birth-rate of</i>	..	..	27.5 per 1,000
<i>Average Birth-rate of the 76 great towns being</i>			28.1 per 1,000
<i>Total number of deaths registered in 1905 (a)</i>	..	..	1,931
<i>Representing a gross recorded Death rate of</i>	..		16.4 per 1,000
<i>*“ Corrected Death-rate ” for the year</i>	..		15.52 „
<i>†Average Death-rate in the 76 great towns</i>	..		15.7 „
<i>‡Comparative Mortality figure</i>	..	..	1,020
<i>Average Norwich Death-rate for the previous</i>			
<i>5 years, 1900 to 1904 (inclusive)</i>	..	..	17.27 „
<i>Deaths from the seven principal Epidemic Diseases</i>			
<i>numbered</i>	..	..	185
<i>Representing a Zymotic Death-rate of</i>	..	..	1.5 „
<i>Average Zymotic Death-rate in 76 great towns</i>			
<i>being</i>	..	..	1.8 „

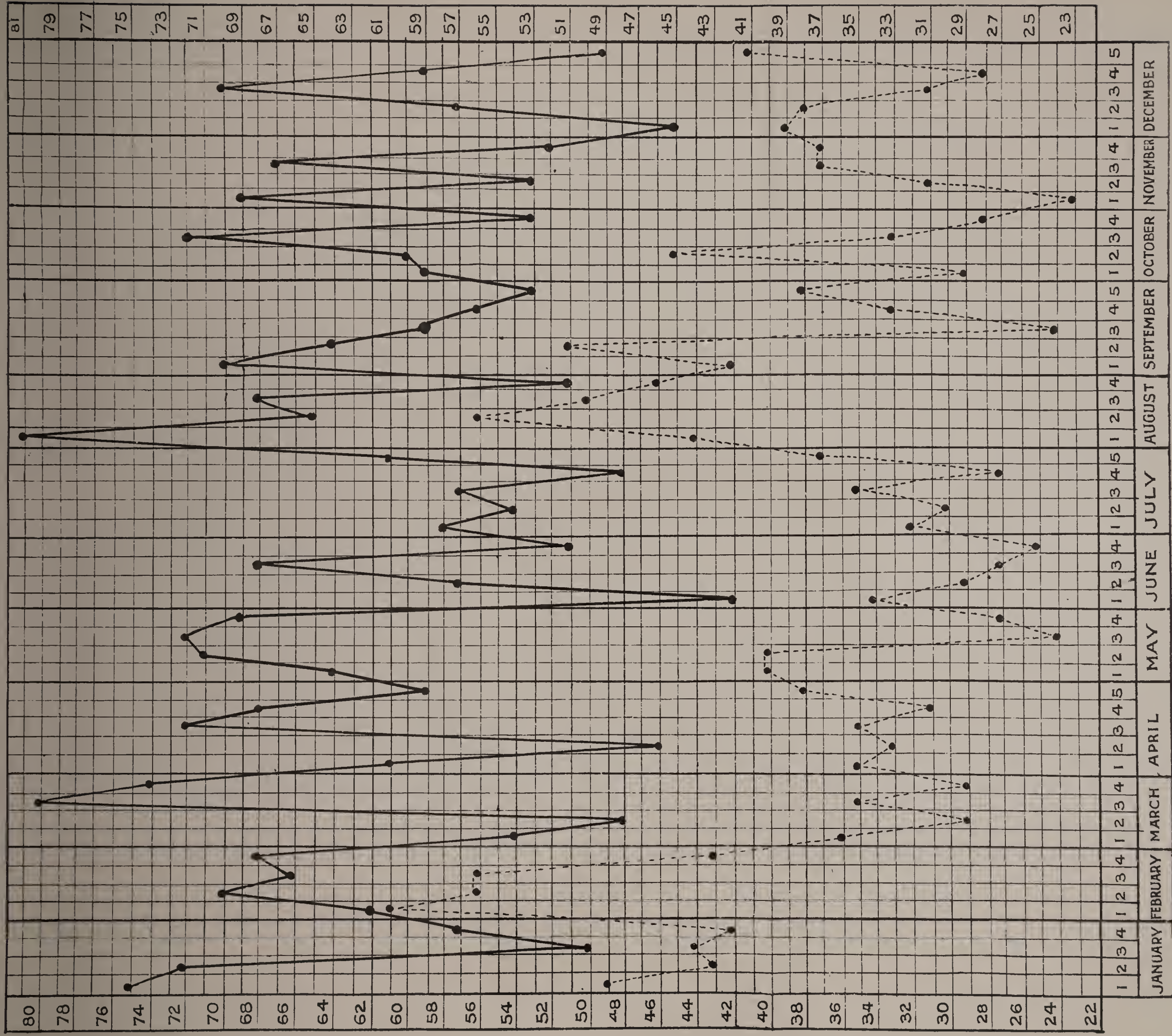
(a) Inclusive of non-residents.

* The “Corrected Death-rate” signifies the Death-rate which would obtain in Norwich if the local age and sex distribution were the same as those of the country generally.

† Estimated from the Registrar-General’s Quarterly Reports.

‡ Taking 1,000 as the mortality figure of the United Kingdom as a whole.

1905 Gross recorded number of DEATHS from all causes, BLACK DASHES • - - - - -
 Gross recorded number of BIRTHS, BLACK LINE •



INFANTILE MORTALITY DURING THE YEAR 1905.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes.	Certified ..	63	15	29	32	139	71	54	49	40	29	38	29	21	31	21	23	545
	Uncertified ..	12	—	—	1	13	—	—	—	—	—	—	—	—	—	—	—	13
Common Infectious Diseases (8)	Small-pox ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Chicken-pox ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
	Measles ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Scarlet Fever ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Diphtheria : Croup ..	—	—	—	—	—	—	—	—	1	—	—	—	—	—	2	1	7
	Whooping Cough ..	—	—	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—
Diarrhoeal Diseases (129)	Diarrhoea, all forms ..	—	2	4	5	11	9	13	16	10	7	11	8	4	14	6	6	115
	Enteritis (not Tuberculous) }	—	—	—	—	—	—	1	—	2	—	1	1	—	—	—	—	5
	Gastritis, Gastro-intestinal Catarrh }	—	—	—	—	—	—	2	3	1	—	2	1	—	—	—	—	9
	Premature Birth ..	41	7	8	7	63	10	4	—	—	—	—	—	—	—	—	—	77
	Congenital Defects ..	4	1	2	1	8	2	3	2	—	—	—	1	—	—	—	—	16
	Injury at Birth ..	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Wasting Diseases (202)	Want of Breast-Milk ..	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	2
	Atrophy, Debility, Marasmus }	18	3	7	13	41	21	11	10	8	5	—	2	3	4	1	—	106
	Tuberculous Meningitis	—	—	—	—	—	—	—	—	1	—	—	2	—	—	—	—	3
	Tuberculous Peritonitis: Tabes Mesenterica }	—	—	—	—	—	—	2	—	2	2	2	—	—	—	—	—	8
	Other Tuberculous Diseases }	—	—	—	—	—	1	—	2	1	—	2	1	3	2	—	1	13
	Erysipelas ..	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1
Tuberculous Diseases (24)	Syphilis ..	—	—	—	—	—	3	—	2	—	—	1	—	—	1	—	—	7
	Rickets ..	—	—	—	—	—	—	—	—	—	—	—	—	2	1	—	—	3
	Meningitis (not Tuberculous) }	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
	Convulsions ..	7	1	2	1	11	4	7	6	2	—	2	1	—	—	2	1	36
	Bronchitis ..	1	—	—	2	3	4	6	2	5	4	5	5	1	2	4	4	46
	Laryngitis ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Causes	Pneumonia ..	—	—	1	2	3	5	1	4	—	9	8	3	3	5	3	8	52
	Suffocation, overlaying ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Other Causes ..	2	1	5	2	10	9	4	2	7	2	3	3	3	2	2	2	49
		75	15	29	33	152	71	54	49	40	29	38	29	21	31	21	23	558

The Deaths of Norwich Citizens *from Zymotic Diseases* included :

	Scarlet Fever.	Diphtheria	Enteric Fever,	Measles.	Whooping Cough	Diarrhoeal Diseases.	Puerperal Fever.	Erysipelas.	Influenza.
Under 5 years of age ..	1	13	—	1	12	137	—	1	2
Over 5 years of age ..	1	12	9	1	1	11	7	11	10

A glance at the above table will show how very large a proportion of the deaths occurred in children under five years of age, and also how great a number of these succumbed to Diarrhoeal Diseases.

The deaths under one year of age numbered 558 representing a death rate of 4.79 per 1,000 of the population at all ages.

The Infant Mortality Rate (i.e., the proportion of deaths under one year of age to every 1,000 births) was 174.0

In the 76 great towns it averaged 139.0

This is a less satisfactory return for Norwich as compared with the 76 towns than that of last year, the figures in 1904 being 179.25 and 160.25 respectively. A special report differentiates the certified causes of death.

The death rate between the ages of 1 and 5 years was 1.2 per 1,000 of the population at all ages ; in 1904 it was 1.2.

The Death-rate between the ages of 5 to 15 was 0.54 per 1,000 of the population of all ages.

The Death-rate between the ages of 15 and 25 was 0.7 per 1,000 of the population at all ages.

The Death-rate between the ages of 25 and 65 years of age was 4.3 per 1,000 of the population at all ages.

The Death-rate at and over 65 years of age was 4.9 per 1,000 of the population at all ages.

There were 109 more male than female children born in the city during the year. 162 of the births were those of illegitimate children. There were 44 deaths under one year of age of illegitimate children, *or* 271.6 per 1,000 births—the rate among the legitimate children being 174 per 1,000 births.

NORWICH SPECIAL DEATH RATES FOR 1905.

(The Registrar-General not having as yet issued his Annual Report, I am unable to give special rates for the 76 great towns.)

	Per 1,000 of the population at all ages.	In 1904.	In 1903.
From all Tuberculous Diseases ..	1.9	2.3	1.9
„ Tuberculosis of the Lungs			
(Phthisis) ..	1.3	1.4	1.1
„ Respiratory Diseases exclud- ing Phthisis ..	2.6	2.1	2.4
„ Heart Disease ..	1.6	2.1	1.9
„ Scarlet Fever ..	.002	0.017	0.13
„ Diphtheria ..	.21	0.08	0.12
„ Enteric (Typhoid) Fever ..	.08	0.12	0.02
„ Puerperal Fever ..	.06	0.03	0.02
„ Erysipelas ..	.103	0.09	0.02
„ Measles ..	.002	1.1	0.008
„ Whooping Cough ..	.11	0.33	0.08
„ Diarrhœal Diseases ..	1.27	1.1	0.78
„ Influenza ..	.103	0.17	0.07
„ Alcoholism ..	.14	0.16	0.13
„ Venereal Diseases ..	.09	0.11	0.09

The following Deaths occurred in *Public Institutions* :—Norfolk and Norwich Hospital, 147 ; the Union Infirmary, 117 ; the Isolation Hospital, 21 ; Jenny Lind Infirmary, 21 ; the Prison, 0 ; The Barracks 1.



List of Ecclesiastical Parishes in the City of Norwich, with the Number of Inhabited Houses and the Population enumerated in each at the Census of 1901.

	Population.	Inhabited Houses.	No. of Persons per House
*Drayton, S. Margaret, with Hellesdon, S. Mary (part of)	950	203	4·7
†Earlham, S. Mary, with Bowthorpe, S. Michael (part of)	320	73	4·4
Eaton, S. Andrew	3,152	678	4·6
HEIGHAM :			
Holy Trinity...	10,956	2,720	4·0
S. Bartholomew	11,584	2,570	4·5
S. Philip	5,350	1,377	3·9
S. Thomas	5,125	1,008	5·0
Lakenham, S. Mark	6,113	1,437	4·3
New Catton, Christ Church	7,985	1,779	4·4
NORWICH :			
All Saints with S. Julian	1,962	460	4·3
S. Andrew	500	114	4·4
S. Augustine...	2,373	554	4·3
S. Benedict	1,865	443	4·2
S. Clement with S. Edmund	836	192	4·4
S. Etheldred with S. Peter Southgate	1,694	378	4·5
S. George of Colegate	1,351	324	4·2
S. George Tombland	729	131	5·6
S. Giles	1,211	288	4·2
S. Gregory with S. Lawrence	963	215	4·5
S. Helen	541	81	6·7
S. James with Pockthorpe	9,113	1,848	5·0
S. John de Sepulchre	2,732	594	4·6
S. John Maddermarket	262	71	3·7
S. John the Baptist, Timberhill	1,015	235	4·3
S. Margaret with S. Swithin	1,114	316	3·5
S. Martin at Oak	2,432	577	4·2
S. Martin at Palace	584	151	3·9
S. Mary at Coslany	1,208	293	4·1
S. Mary in the Marsh	451	78	5·8
S. Michael at Plea	106	29	3·7
S. Michael at Thorn	1,406	345	4·1
S. Michael Coslany	647	157	4·1
S. Paul	5,434	1,198	4·6
S. Peter Hungate	258	67	4·0
S. Peter Mancroft	1,557	308	5·0
S. Peter Permouthergate	2,570	589	4·4
S. Saviour	1,180	307	3·8
SS. Simon and Jude	339	67	5·0
S. Stephen	3,235	715	4·5
Thorpe, S. Matthew	6,450	347	4·8
†Trowse, S. Andrew, with Lakenham, S. John the Baptist and All Saints (part of)	3,786	789	4·3
Extra Parochial (Liberty of Town Close)	299	61	4·9

* The Parish of Drayton S. Margaret with Hellesdon S. Mary is partly in the Civil Parishes of Drayton and Hellesdon. The total number of Inhabited Houses was 371, and the Population 1984

† The Parish of Earlham S. Mary with Bowthorpe S. Michael is partly in the Civil Parish of Bowthorpe. The total number of Inhabited Houses was 85, and the Population 382

‡ This Parish is partly in the Civil Parish of Trowse Newton. The total number of Inhabited Houses was 951, and the Population 4,553

Inquest cases amounted to 6.6 per cent. of deaths from all causes.

In the 76 great towns the average was 7.8 per cent.

Deaths in Public Institutions amounted to 16.1

In the 76 great towns the average was 23.9 per cent.

Uncertified deaths (*i.e.* death certificate not signed by a registered Medical Practitioner) amounted to 1.0 per cent.

Average in 76 great towns, 1.1 per cent.

Thirteen of the deaths of infants were uncertified, *i.e.*, the certificate of death was not signed by a medical practitioner, or attested by the verdict of a Coroner's jury. 7 of these deaths occurred on the 1st day of life, 3 on the 2nd, and all but one within the 1st week. "Premature Birth" was the assigned cause of death in 4 instances. "Debility and Want of Vitality" in 5, "Convulsions" in 3. "Stoppage" in 1.

Once more I point how discreditable it is to the State as the Guardian and Conservator of the prospective interests of the race, to lose a single subject without being furnished with a certificate of the cause of death, properly attested. The law now allows a Registrar, almost always a layman, to accept a certificate from an unqualified person, provided that he, the Registrar, is persuaded that no deception is being practised. The proper course is, without doubt, to hold an inquiry in every such case, and, where needful, a post-mortem examination. These steps will probably be taken only when the registration of the cause of death is placed under the control of the Sanitary authority.

I caused enquiries to be made in 517 cases concerning *the number of children dying under one year of age who were insured*, and found that 51.0 per cent. of these were insured.

There were 31 inquests held by the Coroner or his Deputy.

Of the 44 deaths of illegitimate infants 18 were certified to be due to Diarrhœal Diseases; 11 to Wasting Diseases; 9 to Lung Diseases; 1 to Tuberculous disease; 2 to "Dentition," 3 to "Convulsions," 1 to "Laryngeal Obstruction," and 1 to "Abscesses."

FEVER HOSPITAL.

During the year 87 patients with Scarlet Fever, 96 with Diphtheria, and 23 with Enteric Fever were removed to and treated in the Fever Hospital. In 1904 the corresponding figures were, 122, 58, and 60.

Of the 207 cases removed to the Hospital, 92 were males and 115 females. In 1904 these proportions were 109 and 126 respectively.

With Scarlet Fever 32 of the patients were under 5 years of age.

„	„	30	„	„	between 5 and 10 years of age.
„	„	9	„	„	between 10 and 15 years of age.
„	„	14	„	„	between 15 and 25 years of age.
„	„	2	„	„	over 25 years of age.

With Diphtheria 23 of the patients were under 5 years of age,

„	36	„	„	between 5 and 10 years of age
„	18	„	„	between 10 and 15 years of age.
„	12	„	„	between 15 and 25 years of age.
„	7	„	„	over 25 years of age.

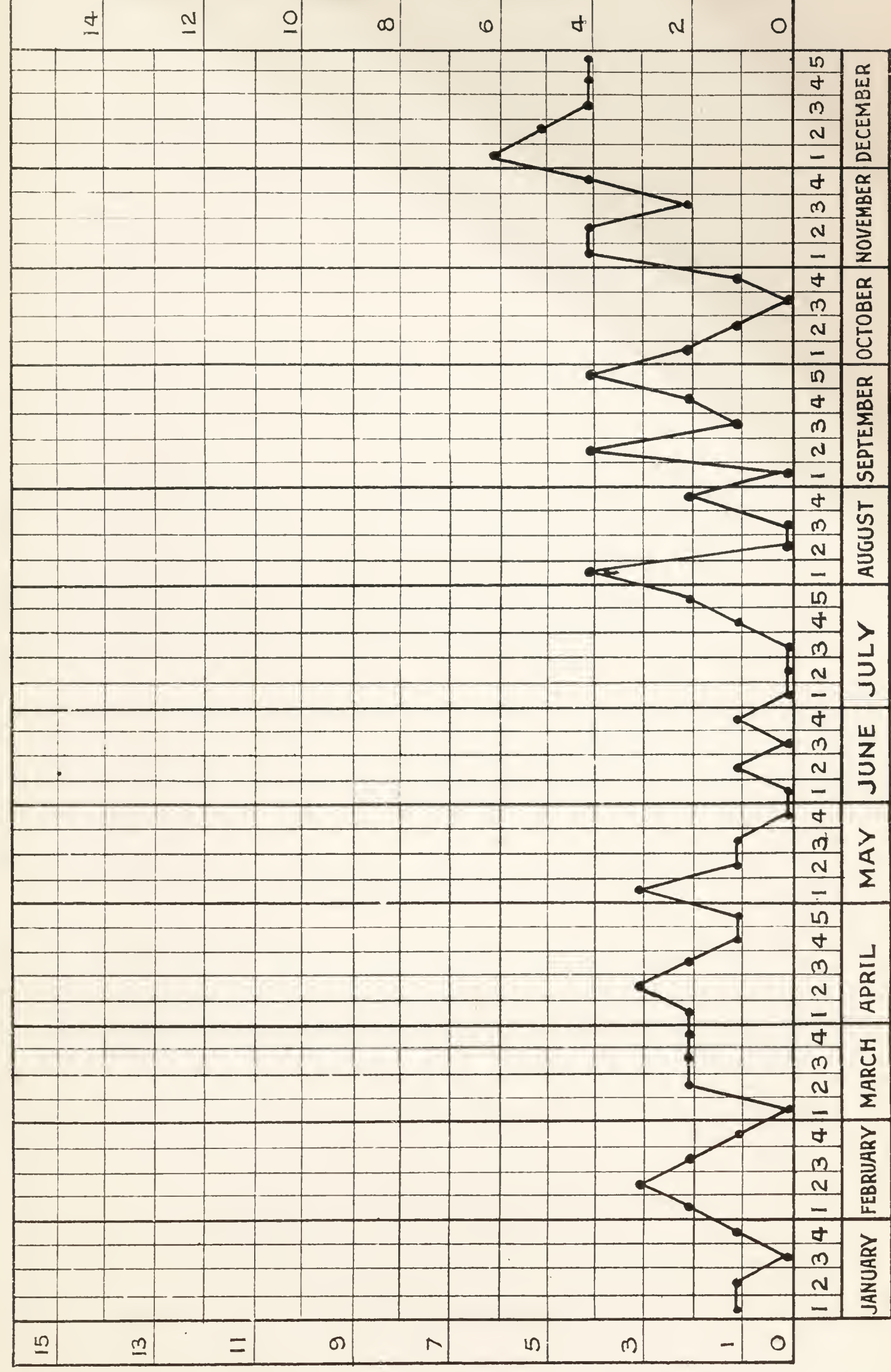
With Enteric Fever 1 of the patients were under 5 years of age.

„	„	4	„	„	between 5 and 10 years of age
„	„	7	„	„	between 10 and 15 years of age.
„	„	7	„	„	between 15 and 25 years of age.
„	„	4	„	„	over 25 years of age.

It will be noticed that the greater number of patients were under 15 years of age

Notifications of SCARLET FEVER.

1905



One special case of Measles was treated in a private ward. There were 20 deaths in the Hospital during the year, 2 from Scarlet Fever, 15 from Diphtheria, 2 from Enteric Fever, 1 from Tuberculosis. The total Hospital death-rate was 9.5 per cent for all diseases, for Diphtheria 15.6 per cent., Scarlet Fever 2.3 per cent., Enteric Fever, 8.9 per cent.

There were only three "return" cases during the year—a result which bears testimony to the vigilance exercised in discharging patients.

The great relative increase in the mortality was due to the large number of cases of Diphtheria which succumbed to paralysis of the heart.

The Wards were as usual kept bright and cheerful of aspect with flowers and plants throughout the year ; presents from the friends and relatives of the patients, many of them quite poor people. The " Toy Fund," too, has been kept in tolerably sound condition chiefly by the donations of patients and their friends. The Hospital Committee made a special grant to provide toys at Xmas. The grounds about the Hospital continue to improve in appearance, and the garden to be more fertile. Some 3,400 articles passed through the steam disinfecter.

INFECTIOUS DISEASES.

Scarlet Fever.—95 notifications of Scarlet Fever in 83 dwellings were sent to me during the year. Of these 95 notifications, 83 were primary, and 12 secondary infections. The Chart gives a graphic representation of the prevalence, week by week, of the disease. I do not regard the occurrence of Scarlet Fever in, or under the proportion of one case to every ten thousand of the population a week, or roughly, 12 cases a week, as constituting an " epidemic " condition of the disease.

Of the cases notified to me 42.2 per cent. occurred in males and 57.8 per cent. in females ; 30.1 per cent. of the patients were under 5 years of age ; 42.2 per cent. between 5 and 10 years of age, 10.9 per

cent. between 10 and 15 years of age ; 14.4 per cent. between 15 and 25 years of age ; and 2.4 were over 25 years of age ; 81.0 per cent. of the cases occurred in patients under 15 years of age.

From enquiries conducted specially I found that of the infected dwellings 4.8 per cent. possessed only *one sleeping room*, the average number of the occupants being 4.5 persons ; 28.9 per cent. possessed *two sleeping rooms*, the average number of the occupants being 2.0 persons per room ; 44.6 per cent. possessed *three bedrooms*, the average number of the occupants being 1.6 persons per room ; and 21.7 per cent. possessed *four or more bedrooms*, the average number of occupants being 1.2 persons per room.

As regards the disposal of excrement 22.9 per cent. of the infected dwellings used "bins," 22.9 per cent. "pail" closets, and 54.2 per cent. water-closets.

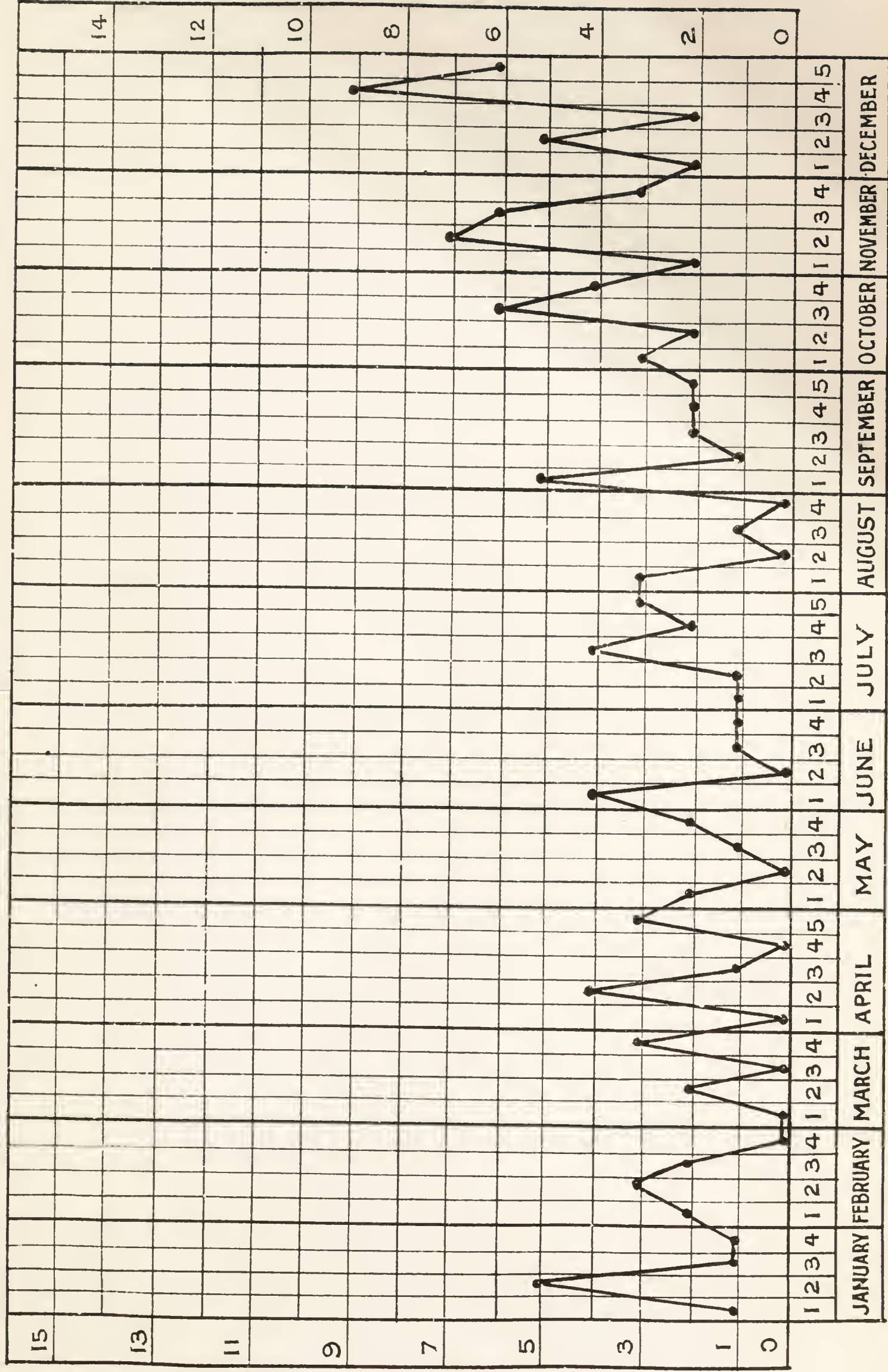
I was not able to trace Scarlet Fever to any special milk supply, and am disposed to think that a great majority of the cases owed their infection to personal contact. As to the origin of this disease we are in greater doubt than is the case with other zymotic ailments, and so long as this uncertainty continues our operations for preventing those conditions from arising which favour its development will be *pari-passu* imperfect, and our practical work confined rather to dealing with effects than causes. I am inclined to think that common use of an infected closet is a method by which this disease is propagated, and that *all the excretions of an affected person are infectious for a time, as well as the breath.*

Diphtheria.—There was an increase in the amount and in the severity of the Diphtheria notified as compared with 1904, the actual number of cases being 129. The number of the notifications was 72 in 1904. There were 25 deaths recorded from this disease during the year, four of the fatal endings occurred in the Norfolk and Norwich Hospital, and thirteen in the Isolation Hospital. The special death-rate was higher being 1 in 5.1 persons attacked. In 1904 it was 1 in 7.2.

The 129 cases of Diphtheria notified to me occurred in 66 dwellings—there being six *instances of secondary infection*, or 1 to every 20 primary cases. 18 were notified from Public Institutions. Of the persons attacked 59.0 per cent. were females and 41.0 per cent. males.

1905

Notifications of DIPHTHERIA.



20.9 per cent. of the patients were under 5 years of age, 33.8 per cent. between 5 and 10 years, 18.7 per cent. between 10 and 15 years, 12.2 per cent. between 15 and 25 years, 14.4 per cent. over 25 years of age, 85.0 per cent. were in persons under 15 years of age.

Systematic enquiries into the home surroundings of the patients entitle me to state that 1.4 per cent. of the infected dwellings possessed *only one sleeping room*, the number of the occupants averaging 4; 24.4 per cent. of the house possessed *two sleeping rooms* the average number of the occupants (of each room) being 2.3; 61.2 per cent. of the houses had *three bedrooms*, the average number of occupants being 1.8; and 13.0 per cent. of the dwellings possessed *four or more bedrooms*, with an average population of 1.3 persons per bedroom. 23.7 per cent. of the affected households made use of "bins" 25.4 used *pail-closets*, and 51.1 per cent. *water-closets*. In 8 per cent. of the houses there was evidence of persistent *dampness* commonly of the walls or flooring, and due to the *absence of a "damp course"* in the former, and of a layer of *concrete* below the latter. On account of the importance of persistent dampness in or about a dwelling, I caused special enquiries to be made concerning the character of the paving, etc., of the yards adjacent to the infected dwellings, and found that 59.0 per cent. had yards covered with some *material impervious to fluids*; that 8.6 per cent. had yards partly paved, 12.2 per cent. cobbled yards, and 20.2 per cent. yards *without any paving at all*. In other words 41.0 per cent. of the houses *adjoined yards offering greater or lesser facilities for the soakage of fluid into the soil about them*. 13.7 per cent. of the houses possessed no sinks, which means that *all household "slops,"* etc., and other *waste fluids would be pitched into and about the gutter in the yard*.

The Chart exhibits the variation in the prevalence of Diphtheria week by week throughout the year. I retain my belief that any condition of the atmosphere or of the surroundings, which tends to produce a congested condition of the tissues lining the throat—such as damp, foggy weather, particularly when associated with low, barometric pressure, which leads to engorgement and relative congestion of the superficial vessels; or any irritating influence such as the noxious effluvia constantly given off by the contents of "bins," "pail closets," collections of refuse, etc—distinctly favours the development of Diphtheria.

Enteric (Typhoid) Fever.—53 cases of Enteric Fever were notified to me during the year, 2 of them being secondary infections. As the relative prevalence of this disease is a commonly accepted criterion of the sanitary condition of a district, its associations and

surroundings, become of special interest ; and the importance of the subject justifies a more detailed account than is requisite in dealing with other filth diseases ; the more particularly as Enteric Fever is rather *endemic* than epidemic in its character with us—that is to say, it has been prevalent for so many years that it must be looked upon as having rooted itself among us..

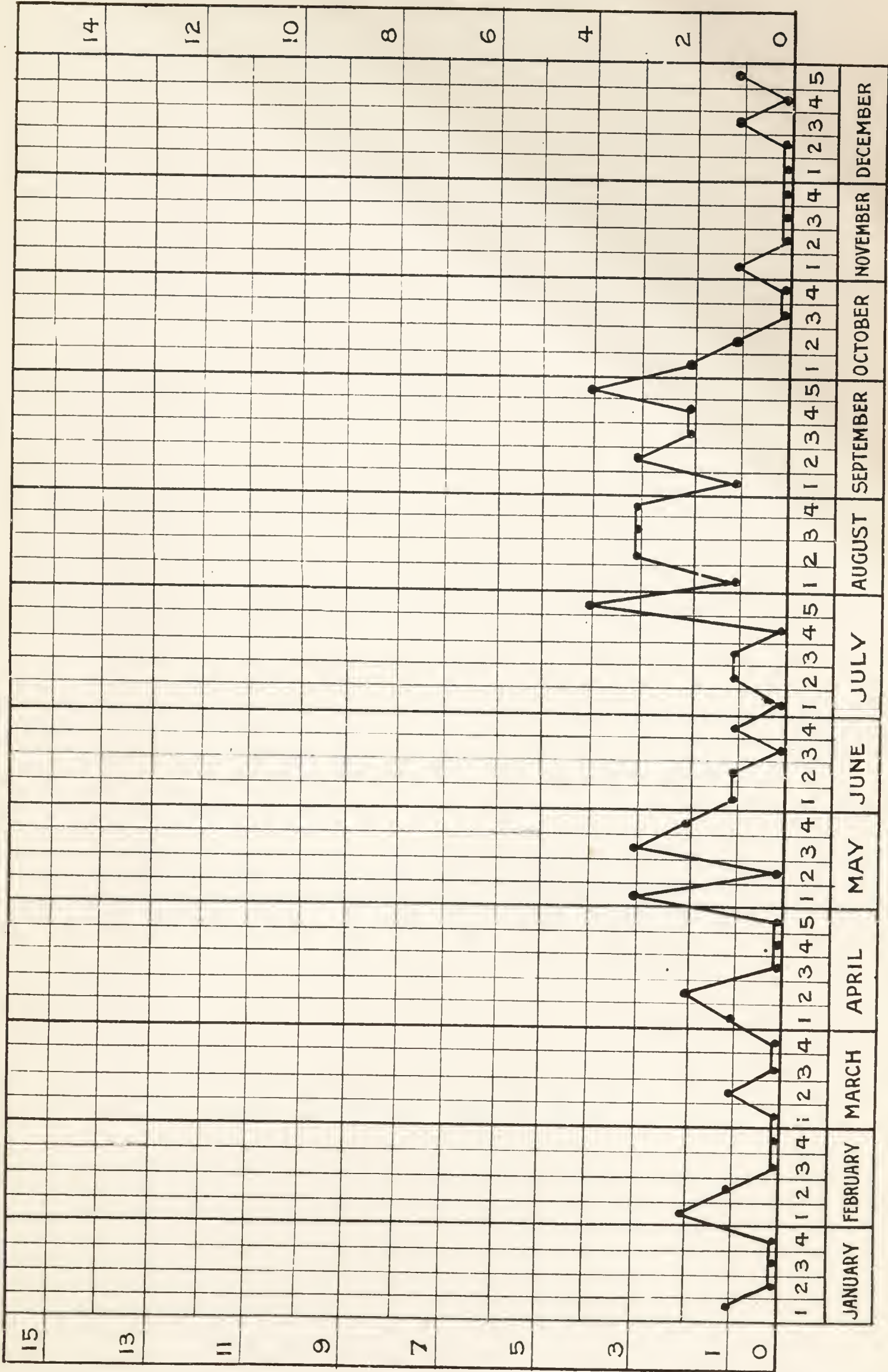
The following table gives the notifications of Enteric Fever in each year from 1880 to 1905 inclusive, and the mortality from the disease. There were 9 deaths registered in 1905, 2 of them in Public Institutions.

180 { notifications of } { Enteric F. in }	1880 with 37 { deaths representing } { a mortality rate of }	20.5 %
50 „	1881 „ 15 „ „	30.0 „
47 „	1882 „ 8 „ „	17.4 „
34 „	1883 „ 11 „ „	32.3 „
121 „	1884 „ 30 „ „	24.8 „
584 „	1885 „ 92 „ „	15.6 „
262 „	1886 „ 39 „ „	14.5 „
136 „	1887 „ 20 „ „	14.7 „
171 „	1888 „ 19 „ „	11.1 „
166 „	1889 „ 22 „ „	13.2 „
176 „	1890 „ 31 „ „	17.6 „
163 „	1891 „ 21 „ „	12.8 „
106 „	1892 „ 19 „ „	17.9 „
314 „	1893 „ 36 „ „	11.4 „
150 „	1894 „ 22 „ „	14.6 „
226 „	1895 „ 24 „ „	10.6 „
196 „	1896 „ 20 „ „	10.2 „
234 „	1897 „ 33 „ „	14.0 „
259 „	1898 „ 48 „ „	18.5 „
144 „	1899 „ 20 „ „	14.0 „
163 „	1900 „ 12 „ „	7.4 „
127 „	1901 „ 15 „ „	11.8 „
57 „	1902 „ 5 „ „	8.7 „
92 „	1903 „ 5 „ „	5.4 „
111 „	1904 „ 15 „ „	13.5 „
53 „	1905 „ 9 „ „	17.0 „

It will be noticed that the death rate in 1880 from this disease averaged 20.5 per cent. of the cases notified, or roughly 1 case in every 5, and that last year the death rate was 1 case in every 6. As I pointed out in my previous report, it does not follow necessarily that these figures represent the true state of the facts ; that there has been on the whole a diminution in the cases of mortality cannot

1905

Notifications of ENTERIC FEVER.



be doubted—but it must be remembered that most probably a number of the milder cases of the disease were not recognised and notified in 1880. Increasing skill in diagnosing the disease in its lighter forms has in my judgment lead to a more accurate correspondence between the number of notifications sent in and the actual amount of the disease ; although I still think that a number of cases of Enteric Fever of what is known as the “ Ambulatory ” type escape notification and never receive medical treatment. So that here, as elsewhere, the notifications furnish a reliable guide to the relative prevalence of the disease but must not be regarded as representing accurately the full amount. By “ Ambulatory ” Typhoid is meant so mild an attack that the patient keeps walking about pursuing his or her ordinary vocation in life, never ill enough to need a doctor, having some feeling of malaise and what is thought to be some transient diarrhœa. A lessening of the mortality from this disease can be looked confidently for now that we are able to set aside a pavilion at the Isolation Hospital for the treatment of the disease when it occurs in cramped crowded dwellings. It is in such cases as these that the disease becomes most fatal not necessarily on account of the severity of the seizure, but almost necessarily on account of the unfavourable nature of the surroundings. Last year the Enteric Fever generally was of a relatively severe type.

Differentiating some characteristics of the 53 cases notified in 1905 and comparing them with those notified in 1904, 1903, 1902, I find that as regards

- (a) Sex. 53 per cent. of the cases occurred in males and 47 per cent. in females ; the average per centages of the preceding three years were 52 males and 48 per cent. females. Why these changes have occurred I do not know ; the females are commonly more home-keeping in their habits than the males, on the other hand the latter expose themselves to more extended means of infection.

- (b) Age.

				Average percentage of the preceding 3 years.
7	{ per cent. of the patients were under 5 years of age }			8.5
21	„	„	between 5 and 10	15.0
20	„	„	„ 10 „ 15	17.5
4	„	„	„ 15 „ 20	13.0
20	„	„	„ 20 „ 25	16.0
14	„	„	„ 25 „ 35	15.5
6	„	„	„ 35 „ 45	5.5
8	„	„	over 45	9.0

It will be noticed that 49 per cent. of the cases occurred in children under 15 years of age—what may be called juvenile typhoid being a marked characteristic of the Enteric Fever which prevails in Norwich. The average number of such cases in the preceding three years was 40.0 per cent. of the total number. More cases in persons over 45 years of age were notified.

(c) Crowding.

					Average number of occupants per bedroom.
7.8	{	per cent. of the affected dwellings had	}		
				only 1 bedroom	2.7 persons
27.5		„	„	„ 2 „	2.2 „
49.0		„	„	„ 3 „	3.2 „
15.7		„	„	„ 4 or more	1.2 „

The average corresponding percentages of the preceding three years were 1 bedroom, 3.4 per cent. ; 2 bedrooms, 33.6 per cent. ; 3 bedrooms, 47.0 per cent. ; 4 or more bedrooms, 16.0 per cent., the relative crowding being 3.8, 2.7, 2.2 and 1.3 persons *per room*. In estimating the influence of “man-crowding,” I have only concerned myself about the number of sleeping-rooms, the rooms in which crowding becomes important. The census returns are helpful here only in respect of tenements consisting of one room, which room must of necessity, be used for bed and living room ; and when it is remembered how large a proportion of these are occupied by one old man or woman living alone, the incidence of the disease in houses containing one bedroom probably is much heavier than the figures represent.

(d) Water supply.

94.1 per cent. of the affected dwellings were supplied with the Company's water.

5.9 per cent. of the affected dwellings were supplied from wells.

Of the preceding three years the (averaged) corresponding proportions were 97.1 and 3 per cent.

The proportions in which houses are supplied with “pipe ” or with well water, are altering quietly but *continuously* : each year sees an increase in the number of houses supplied by the Company, and a decrease in the number of those drawing water from wells. I believe that at the present time over 97.0 per cent. of the houses

are supplied by the Company with water. 4 wells were closed during the year, the water being drawn from them being shown, by chemical analysis alone, to be unfit for drinking purposes. The persistence of Typhoid among us makes it necessary for us to take every possible precaution with regard to water. The Water Company expend great care upon the filtration and storage of the water it supplies to the citizens, and short of the demonstration by bacteriological experts of the specific bacillus of Enteric Fever being distributed by the Company with the water it abstracts from the Wensum I see no sufficient reason for dissenting from the opinion expressed by the Official Analysts that it is "a perfectly safe water for dietetic use."

(e) Milk supply.	1905.	Corresponding (averaged) proportions in the pre- ceding three years.
3.92 per cent of the patients drank no milk		4.0
15.68 per cent. of the patients drank it in the raw uncooked condition ..		11.0
78.44 per cent. of the patients drank it only when first boiled or cooked in puddings or in hot tea, &c. ..		83.6
1.96 per cent. of the patients used con- densed milk		1.4

Milk, I think, had as in preceding years, little to do with propagating Enteric Fever amongst us ; its influence anyway must have been limited, for practically it is likely only to be a direct source of infection in 15 per cent. of the cases, among the drinkers of the *uncooked* article. At the same time I am bound to say that but for the fairly general cooking of the milk consumed among us we are practically at the mercy of the surrounding districts ; so large a portion of our supply comes from outside the city ; and unfortunately the need of a Medical Officer of Health for the County of Norfolk is felt in more than the absence of concerted action between the City and the County Sanitary Authorities in the matter of milk supply.

- (f) Shell-fish. So far as I could learn 85 per cent. of the cases *ate no shell-fish, either in the cooked or uncooked condition, within three weeks of the outset of their ailment.* In the preceding three years the corresponding (averaged) percentage was 85. So this possible source of infection could not affect more than 15 per cent. of the cases last year, even supposing that the whole of these ate their shell-fish in an *uncooked condition.*

(g) Disposal of excrement.

33 per cent. of the affected dwellings used " bins."				
22	"	"	"	" pail closets.
45	"	"	"	" water closets.

In the preceding three years the corresponding (averaged) percentages were 35.0 per cent. " bins " ; 25.5 pail closets ; 39 water closets. It is much to be regretted that the power of the Sainitary Authority to enforce the provision of water is restricted so seriously, as under the existing laws unfortunately it is. Unless the Health Committee decide in each particular instance, that there is insufficient accommodation, it cannot enforce the provision of a water closet (*which it always recommends*), except in the rare now circumstance of the excrement having to be removed *through a dwelling* ; in which case water closets are insisted upon always. Then many of the new houses comply *with the Building Bye-Laws*, under which the Executive Committee is obliged to sanction the erection of new dwellings, *by providing a pail closet*. For the past two years none of the *new dwellings* occupied were provided with pail closets.

(h) Household drainage.

At 74 per cent. of the affected houses the Inspectors reported the drainage as " good." In the preceding three years the corresponding (averaged) percentage was 68.0 per cent.

Which means that, in the others, some defect in the drainage such as no sink (which means that all slop and other waste water would be pitched about the yard), sink waste-pipe not disconnected, or loose and defective " traps," &c., existed.

(i) Character of yard.

	Average of the preceding three years.
None of the affected dwellings had no yard	0.75
45.1 per cent. of the dwellings had paved yards	47.8
29.4 per cent. of the dwellings had <i>un- paved yards</i>	22.3
5.9 of the per cent. dwellings had <i>partly paved yards</i>	8.4
19.6 per cent. of the dwellings had <i>cobbled yards</i>	20.6

In other words, 55 per cent. of the dwellings had yards more or less liable to have the *subsoil soddened with moisture and impurities*. I have drawn attention repeatedly to the importance of having the soil which adjoins a dwelling covered with some material *impervious to fluids*, else it cannot be kept dry. A large number of the poorer dwellings in this City have no properly constructed "damp course" in the walls, and in addition have not had a thick layer of concrete laid under the bottom floors; in such cases moistening of the subsoil must lead to dampness in the dwelling, to say nothing of the deleterious ground air which will be forced upwards by the rising of the ground-water from time to time; and always be more or less sucked into the dwelling, owing to its atmosphere being warmer.

- (j) Food Store. In 1.9 per cent. of the affected dwellings food was stored in a receptacle situated inside the living-room, but *having direct communication with the external air*: 4 per cent. food was stored *in a similarly ventilated* receptacle elsewhere; 11.6 per cent. of the dwellings had *the household food stored in an unventilated receptacle* (i.e., having no communication with the external air) in some part of the house, other than the living room; and in as many as 82.5 per cent. of the dwellings, the food was stored *in some unventilated receptacle in the actual living-room*. In the preceding three years the food store was some unventilated receptacle *in the actual living-room* in (averaged) 80.8 per cent. of the affected dwellings.

It is worthy of notice that in 82.5 per cent. of the affected dwellings the food was stored in the living-room, and therefore in *an atmosphere more or less stale and impure*. Without assuming a direct connection between such food and a disease like Typhoid, it will be obvious that articles of food such as milk, butter, bread, etc. kept in such surroundings become contaminated easily with impurities

- (k) Nearness to sewer gratings and gullies:—

	Average of three preceding years.
42 per cent. of the affected dwellings were within 20 ft. 	19.0
34 per cent. of the affected dwellings were within 40 ft. 	24.0

The remainder were over 40 feet. These measurements were taken because a stench from a grating or gulley has been charged with occasioning Typhoid so constantly by people living near; my own belief is *that pollution of the neighbouring air, with sewer gas,*

lowers the resisting powers of the body, and thus causes those exposed to so deleterious an influence to fall more easily a victim of disease. I am of opinion that the emanations from collections of excrement in "bins" and pail-closets, and from heaps of decaying refuse, act in the like manner as powerful predisposers to disease.

(l) Occupations of householders, etc. :

1 assistant, 1 baker, 1 book-binder, 1 box-maker, 1 bricklayer, 1 cabdriver, 1 carriage examiner, 3 carters, 2 clerks, 1 coach-builder, 1 engine-fitter, 1 fireman, 1 gardener, 1 gentleman, 1 hawker, 1 housekeeper, 12 labourers, 1 no occupation, 1 painter, 1 police constable, 1 postman, 1 purveyor, 1 sawyer, 6 shoemakers, 1 starch packer, 1 storekeeper, 1 tailor, 1 tinman, 1 unemployed, 1 waitress, 1 woodchopper, 1 yardman.

(m) Secondary cases.

In 2 dwellings only did more than one member of the household contract the disease.

Taking all the facts brought to my notice in these detailed investigations during the past six years into consideration, the following summary represents the conclusions I have at present arrived at.

- (1) That Enteric Fever (as shown by the number of notifications) has been prevalent in Norwich for the last 25 years.
- (2) That while there has been, on the whole, a seasonal increase of the disease in the autumn months, the disease has persisted throughout the year.
- (3) That what may be described as the *endemicity of the disease in the City*, appears to be associated with the methods followed in the disposing of excrement, and with defects in the sewerage and drainage.
- (4) That while specially polluted water and milk are occasional causes, there is no sufficient evidence that they constitute the main persisting causes.
- (5) That bedroom crowding exerts a predisposing influence, probably by lowering the standard of healthiness in those subjected to such undesirable household conditions.
- (6) That emanations from sewer gratings, untrapped gullies, and more particularly collections of festering excrement exert a *predisposing influence in those exposed to them*.

- (7) That the existence of some thousands of fixed and movable "bins" is unquestionably a source of continuous pollution alike to the *soil* and the *air* in the neighbourhood of the dwellings, and affords *favourable conditions for fostering a filth disease like Enteric Fever*; and that, in scavenging, portions of excrement are liable to fall on to and get trodden into imperfectly paved yards, alleyways, and streets.
- (8) That the high proportion of the chlorides and nitrates to be found in the soil of the City bears testimony to *organic pollution in the past, and furnishes a favouring nidus for promoting the existence of the specific micro-organism of Enteric Fever*.
- (9) That this disease can be combated most effectually by the adoption of a system of water-carriage for the disposal of excrement, paving all the yards with material impervious to fluids; and by the hospital treatment of such cases as occur in small or crowded dwellings.

Puerperal Fever.—Nine notifications of this dangerous child-bed fever were sent in during the year; there were 7 fatal cases. Supposing the notifications to represent all the cases which occurred, the death-rate was a high one. The average death-rate for the preceding three years having been 70 per cent. of the notified cases. Puerperal Fever being a preventible disease, we were entitled to look for a diminution in the mortality from it. I forbid the nurse or midwife in attendance to go to another confinement for a period of at least one month, and then only after a thorough cleansing and disinfection of her clothing and person, and as far as possible dwelling. The medical practitioners in the City I have found anxious to adopt all reasonable precautions, the chief being a temporary abstention from obstetric practice. Rigorous antiseptic precautions in obstetric practice furnish the best means of preventing the development of the disease, and as our midwives have now to be registered and are trained more scientifically, we may look justifiably for a steady lessening of Puerperal Fever; more particularly as parturient women themselves come to understand the vital importance of scrupulous cleanliness being observed by themselves, their attendants, and in all the surroundings. The new Midwives Act came into force during the year.

Erysipelas.—Seventy-six cases were notified to me. Twelve deaths were registered from it. Last year the figures were 79 and 11 respectively. Erysipelas of a fatal type cannot therefore be regarded as having been prevalent in the City. As a matter of fact I regard notifications of this disease as possessing little practical value.

Measles —Measles was not notified during the year, and 2 deaths only were attributed to it. This is a dangerous disease, particularly on account of its liability to set up lung complications ; and on account of its lengthy incubative period and infectivity, a source of administrative trouble to all concerned with the control and management of schools. I found the notification of first cases in separate dwellings helpful in enabling the schools to exclude all children coming from an infected dwelling. As a weapon of defence against the spread of Measles *in towns*, I think the closing of schools has limited value ; what I found notification of great value for was, the number of sanitary defects in and about the affected dwellings which were brought to our notice ; and the opportunities that were afforded to bring about an alteration in the attitude of mind assumed by many of the mothers of families in Norwich towards this highly dangerous infective disease, and the criminality of carelessness in dealing with it.

Whooping Cough proved fatal to 13 children last year. This is a result for 1905 which is more satisfactory than that for the preceding year, when 39 deaths from the disease were registered. This disease is highly infectious, and dangerous too. I gain information of its prevalence among children attending the Schools only from the weekly returns.

Diarrhoeal Diseases carried off 148 persons, 137 of whom were *under 5 years of age*, the greater number succumbing (as is customary) in the third quarter of the year. In 1904 there were 132 deaths from these diseases. I attribute the prevalence of and mortality from this disease to *bad feeding, carelessness in the treatment and storage of milk, soil and air pollution, particularly the retention of excrement upon the premises.*

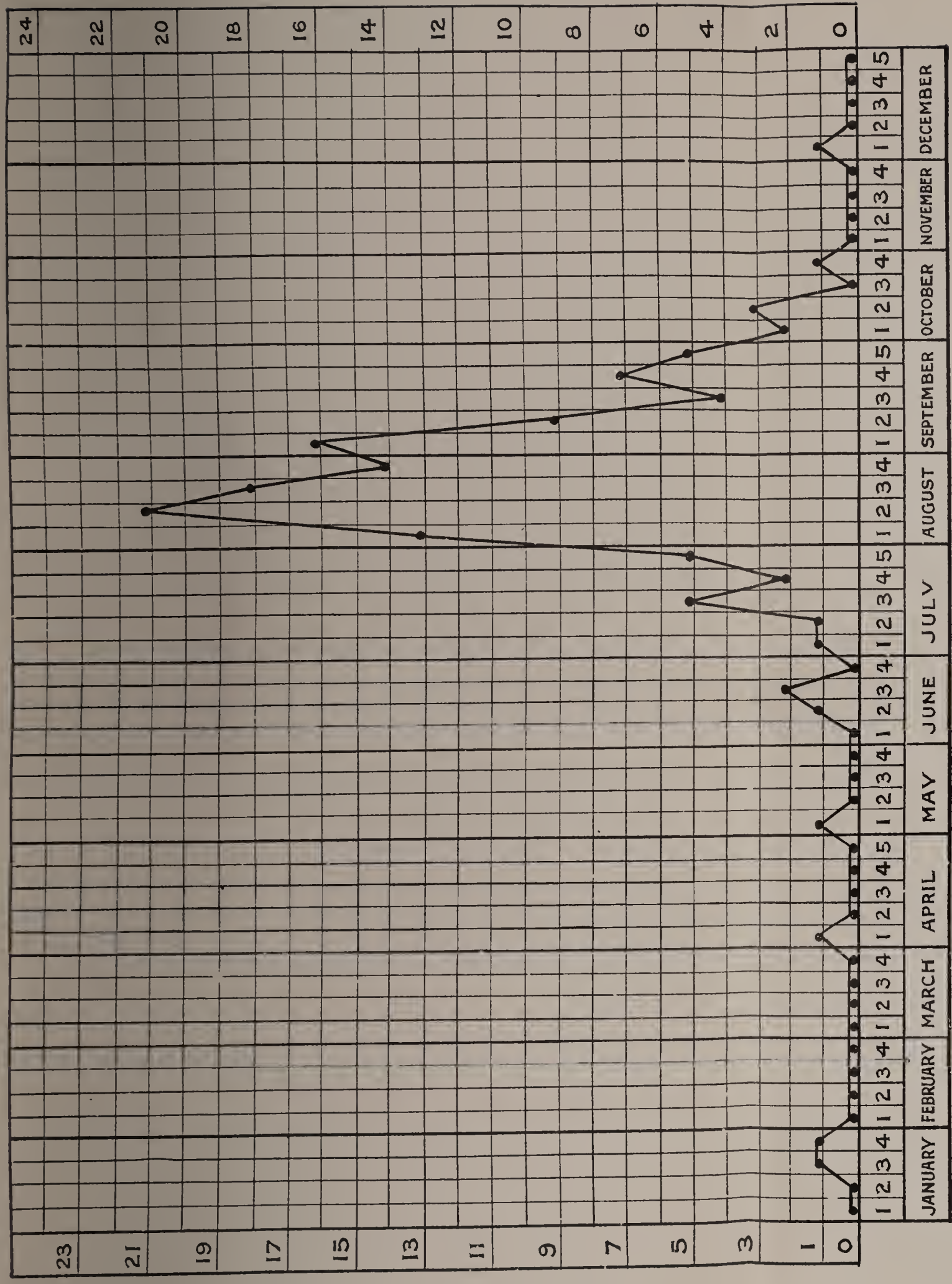
Influenza.—12 deaths were certified to be either directly or indirectly due to this disease ; in 1904 the number of deaths ascribed to it was 20.

Cancer.—125 deaths were attributed to malignant growths during the year.

Septic Diseases (other than those specified) caused the deaths of 64 persons.

1905

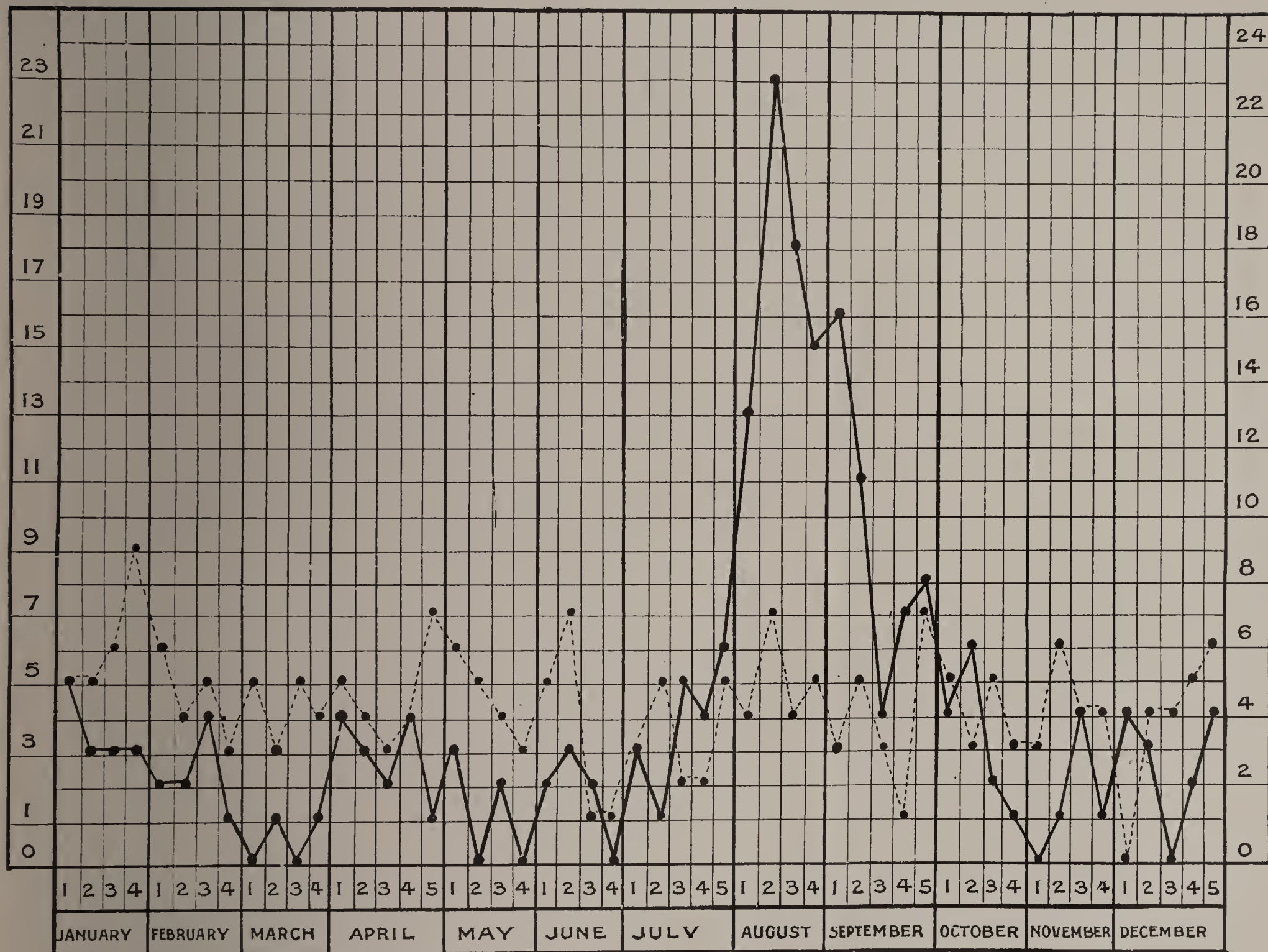
DEATHS from DIARRHŒA.



EDWARD BURGESS & SONS, LTD., LITHOS., NORWICH.

1905

Deaths from ZYMOTIC DISEASES, BLACK LINE
Deaths from TUBERCULOUS DISEASES, BLACK DASHES



THE TUBERCULOUS DISEASES.

(Forms of the disease called commonly "Consumption." 150 deaths were certified to be due to tuberculous disease of the Lungs (Phthisis) and 75 to other forms of tuberculous infection ; making in all a total of 225 *deaths from the tuberculous diseases*. This is a little below the average for the preceding twelve years, which average amounts to 232 *deaths from the tuberculous disease per annum*. I am hopeful that at length the people of Norwich are beginning to realise the fact that the tuberculous are *distinctly infectious* diseases, and to treat them accordingly. Nothing but benefit to the healthiness of our community can result from the general apprehension of the fact that the tuberculous diseases are dangerous—the phthisical type particularly. I feel that I have done well in insisting, as for twelve years I have done, upon the dangers to the community of these *catchable and largely preventible diseases*. The chart shows the weekly fluctuations in the tuberculous death-rate throughout the year ; and it will be worth the reader's while to compare this chart with the charts of the eleven preceding years. The returns for the twelve years confirm the fact that the *tubercle bacillus* (the micro-organism of whose pernicious activity these diseases furnish us with reliable information) is no stranger among us. It flourishes practically wherever people are crowded together, and may be said to be entrenched in all old cities. This lethal bacillus which has cost, and is still costing us, as a nation, directly or indirectly, millions of money, and goes on reaping its untimely harvests of lives year after year, is most at home in dark, ill-ventilated places, and is much favoured by overcrowding in any dwellings. *Sunlight and fresh air, fortunately are destructive to it ;* which facts helps to explain why sanitary experts claim that every dwelling shall have good *air space, and freedom for admission of sunlight into and about it*.

In 1893 I first offered to disinfect gratuitously the rooms, which had been occupied by a tuberculous patient, after the removal by death, or otherwise, of the victim of the *tubercle bacillus* ; and there has been a really remarkable growth of opinion on the part of the public, that it is *a wise step to have rooms, etc., disinfected after a death has occurred from tuberculous diseases* ; and can only hope that the practice will become general. I hope also that the members of the medical profession will recommend disinfection to the friends of their patients in all cases of death, or of removal. It is at any rate encouraging to find that within 10 years, the relatives of more than nine-tenths of the fatal lung cases consented to have this precautionary measure adopted for *for the protection of the other inmates of the dwellings*.

Again I direct attention to the fact that the *tubercle bacillus* is coughed up constantly in large numbers *with the spittle* of consumptive people, and that the same bacillus is present commonly in the discharges from tuberculous glands, abscesses, etc. Should hæmorrhage occur, the specific bacilli will pretty certainly be carried out with the blood. Hence the importance of either rigidly disinfecting (boiling is a good method) or burning any rags, clothes, etc., soiled with the blood or expectoration. For if the extruded matter be left to dry, it will in time, become fine dry dust; which dust may be kicked or brushed up into the air, and as it contains the potentially active bacilli, it may be the means of introducing these into the lungs of others; or the expectorator of the infective material, may, in this way, re-infect himself. The risk of infection is specially great when the epithelium (an exquisitely delicate protective membrane) lining the respiratory passages becomes from any cause abraded (as for example, after an attack of Bronchitis, Whooping Cough, Measles, Influenza, etc.). It is not only a piece of enlightened self-interest on the part of a consumptive, to take care that all expectorated matter is disinfected rigidly, or what is better, burnt promptly, but it is also his imperative duty to minimise the risk to his fellows by so doing. It is *what a consumptive coughs up* that is to be feared: not his mere breath—one may sit for example, in the same room with him, if it be well ventilated, and his habits are cleanly, without practical risk. Spitting about in public places and vehicles, becomes, when the spitter is a consumptive, in addition to being a disgusting habit, a dangerous one as well; a habit that should be discouraged rigorously, alike in the interests of decent manners, and of the general health. A consumptive can always carry a damp rag with him, which rag he can burn easily.

Unfortunately, a very large number of people inherit a predisposition, that is a heightened liability to fall victims to tuberculous disease, and many others favour the development of the disease in themselves, through lowering their general tone by living amid surroundings of a depressing character, such as *ill-lighted, dusty, and badly-ventilated* shops, work-rooms, houses, and offices. A person enjoying fairly good health may, and probably does, take in tubercle bacilli from time to time with his food and air; but commonly the resisting power of his tissues is able successfully to cope with the invaders; the person, however, whose health is below par. in particular, if the protective pulmonary epithelium be abraded by coughing etc., and whose tissue-resistance is enfeebled, such a one all too frequently succumbs—and the onset is so insidious that the bacilli may gain a firm hold before the mischief is noted. The great general preventatives of consumption are *good food, sunlight and fresh air* in generous abundance.

Total Tenements and Tenements of less than Five Rooms, distinguishing those Occupied by Various Numbers
of Persons in the County Borough and City of Norwich and its Constituent Wards, 1901.

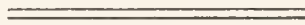
WARDS.	Total Tenements.	No. of Rooms in each Tenement.	NUMBER OF OCCUPANTS IN EACH TENEMENT.												No. of Tenements of less than Five Rooms.
			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12. or more	
NORWICH, CITY OF ..	25585	1. 2. 3. 4.	231 470 197 186	98 490 440 702	12 229 365 713	10 138 245 577	4 101 178 461	4 34 123 406	17 97 251	4 35 144	30 90	9 33	4 12	1 7	359 1485 1724 3582
No. 1 or CONESFORD ..	1298	1. 2. 3. 4.	16 37 18 4	12 26 34 23	1 15 33 22	1 8 18 14	1 1 14 12	1 1 13 16	3 9 7	4 4 7	2 3	1 ..	1 ..	..	32 91 147 108
No. 2 or BER STREET..	1868	1. 2. 3. 4.	12 54 21 24	8 53 31 84	1 15 46 82	1 17 19 66	21 22 56	9 11 53	1 14 39	5 11	5 16	1 5	5 1	1	22 170 175 442
No. 3 or MANCROFT ..	842	1. 2. 3. 4.	7 38 19 11	2 28 31 17	5 21 21	1 15 16	2 10 9	3 6	7 8	1 4	3 1	1 1	..	..	9 74 110 195
No. 4 or WESTWICK ..	1406	1. 2. 3. 4.	50 51 17 19	12 50 38 64	1 20 29 52	1 13 17 34	10 14 33	2 1 12 27	..	..	..	..	..	..	66 145 145 260
No. 5 or COSLANY ..	1561	1. 2. 3. 4.	52 50 32 10	34 68 73 70	4 44 52 56	3 28 45 56	2 20 35 52	5 22 32	5 16 29	..	9 13	3 5	1 2	..	95 221 294 342
No. 6 or FYE BRIDGE..	1798	1. 2. 3. 4.	42 85 19 11	10 114 57 45	1 53 65 48	1 33 51 58	23 31 40	8 21 39	4 17 28	2 10 14	4 8	1 4	1 ..	1	54 322 277 296
No. 7 or THORPE ..	1408	1. 2. 3. 4.	3 20 5 5	1 8 13 25	1 14 7 18	.. 6 30	2 8 21	1 5 15	3 7	..	..	1 1	..	2	5 45 47 134
No. 8 or LAKENHAM ..	1344	1. 2. 3. 4.	3 16 11 25	16 20 20 83	2 18 102	5 16 88	1 9 56	5 48	3 30	..	..	3	..	..	3 40 82 466
No. 9 or TOWN CLOSE..	1459	1. 2. 3. 4.	3 20 9 18	23 33 73	14 19 87	4 5 62	2 2 56	4 49	2 24	..	4	3 1	..	1	3 63 75 386
No. 10 or EATON ..	2469	1. 2. 3. 4.	2 12 .. 1	5 3 9	.. 1 18	1 6 9	.. 5	.. 6	.. 2	..	..	1	..	..	2 18 10 55
No. 11 or NELSON ..	1496	1. 2. 3. 4.	2 18 12 23	11 22 79	3 15 60	2 3 51	1 5 29	1 22	1 20	..	1 5	1	..	..	4 36 59 298
No. 12 or EARLHAM ..	1384	1. 2. 3. 4.	2 3 5 6	2 5 17	1 2 20	.. 1 15	1 1 7	2 3	..	..	..	..	..	..	2 7 16 71
No. 13 or HEIGHAM ..	1472	1. 2. 3. 4.	5 7 2 3	7 2 21	3 2 15	1 3 3	2 8	7	2	..	1 3	2	..	..	5 20 7 65
No. 14 or WENSUM ..	1568	1. 2. 3. 4.	11 24 10 15	32 23 38	14 13 46	9 21 31	6 4 35	2 10 32	..	..	..	..	..	1	12 87 89 237
No. 15 or CATTON ..	2195	1. 2. 3. 4.	8 13 13 10	4 21 36 44	1 7 30 51	4 13 29	1 17 32	1 8 41	2 6 19	..	1 6	2 1	..	1	13 49 127 245
No. 16 or MOUSEHOLD..	2017	1. 2. 3. 4.	13 22 4 1	13 26 19 10	2 19 12 15	3 12 9 15	1 8 6 10	5 7 10	4 4 11	..	2 1 4	1 1	..	..	32 97 64 82

When a member of a household has fallen a victim to one or other of the tuberculous diseases, it is not necessary to treat him as a social leper. If precautions be taken to prevent *anything he coughs up* from ever drying, and if the rooms occupied be ventilated effectively he may share the ordinary family life. He should, however, sleep in a bed by himself, and where practicable, *in a separate room*, this room should be as large as possible, and the consumptive should early acquire the habit of *keeping the window always OPEN* supposing, as is commonly the case, there is not other means of admitting fresh air. Of course the proper way of securing adequate ventilation is to make arrangement *altogether unconnected with the window*; perhaps the simplest, and certainly one of the best means of doing this, is to insert a grating *at the floor level* in the external wall, delivering, if possible, *fresh air under the bed*; (by means of a simple valve, the incoming air can be directed upwards to the bottom of the bed), the atmosphere of the room will then always keep refreshing and healthsome, whether the window be closed or not. If such fresh air grating be *not* provided, (the expense of inserting one is trifling), then if the window frame reach low down, say to within eighteen inches of the floor, let it be kept open *at the bottom*; if the lower edge of the window be, as it most stupidly usually is, about three or four feet from the floor, place an accurately-fitting piece of board under the lower sash, so as to leave a vertical aperture between the sashes of not less than three inches in depth. Failing all these, open the window *at the top*. In towns the air may be rendered more acceptable to the irritated lung tissues by causing it to pass through a screen of stretched flannel, which will filter out effectually from the air particles of dust, "blacks," &c. *Under no circumstances is it prudent to turn the room into a practically closed box.* Let the bed clothing be warm and light, *e.g., ventilated eiderdown quilts.* With good air, cold need never be feared. I do not believe that moisture is detrimental to a consumptive, but I believe that the lowered barometric pressure which usually accompanies it is, by leading to the engorgement and relative congestion of the superficial vessels. The important point is to keep a consumptive irrigated constantly *with unbreathed air*. It is when the bacillus-riddled victim of tuberculous disease becomes too weak to attend to himself carefully that the great risk of infecting his bedding, etc., and room occurs, and hence the sensibleness of having these carefully disinfected, after pale Death have entered with equal foot, whether it be into the hovels of the lowly or the halls of the great.

It is believed that tuberculous disease may be conveyed to the human by other animals, notably by cattle. Dairy cows in particular, if kept in over crowded and badly-ventilated sheds, fall ready victims to the tuberculous disease, and may, through their milk,

convey it to the milk-feeding people, particularly children. This danger in a great measure, may be guarded against by, *in all cases, boiling or otherwise thoroughly cooking suspected milk* before consuming it. There is a lessened but still sensible risk in eating the flesh of tuberculous cattle, for the risk cannot be entirely banished by cooking, the interior portion of joints, etc., rarely reaching a temperature sufficiently high to kill the bacilli.

It should be the duty of specially-appointed veterinary surgeons *to make periodical inspections of cattle*—to order their destruction when desirable (fair compensation to be given in all cases where the owner has taken reasonable care to give no encouragement to the disease), and to supervise the disinfecting of the stalls, sheds, &c., which have been occupied by the affected animals. But one fears that this simple precautions will only be adopted when the electors of the Realm of England have realised “that public health is public wealth,” and make the promotion of national healthiness “the supreme law.”



The following is a copy of the card of instructions issued by me to people known to be suffering from Tuberculous Disease :—

PRECAUTIONS FOR CONSUMPTIVE PERSONS.

Consumption is a catchable disease. It is caught most commonly by inhaling infected spittle which has been allowed to become dry and then float about the rooms as dust.

Do not spit except into special vessels, the contents of which are to be destroyed by burning before they become dry. If this simple precaution be taken, there is practically no danger of infection.

The breath of consumptive persons is not directly infectious.

The following suggestions will be found useful, both to a sufferer and to his friends :—

1.—Spittle (indoors) should be received into small paper bags or pieces of paper which should be afterwards *burned*.

2.—Spittle out of doors should be received into a suitable bottle which afterwards should be washed out with *boiling water*; or into a small paper handkerchief which afterwards should be burnt.

3.—If ordinary handkerchiefs are ever used to spit into they should be *put into boiling water before they have time to become dry*; or into a solution of a disinfectant, as directed by the doctor.

4.—*Wet* cleansing of rooms, particularly bedrooms occupied by *sick* persons, should be substituted for “dusting” and “sweeping.”

5.—*Sunlight*, good food and *fresh air* are the best general remedies for the disease. Every patient should, if possible, sleep in a bedroom by himself, and should sleep with his bedroom window *open*, a screen being arranged, if necessary, to prevent direct draught; stretched coarse flannel may be used to free incoming town air from dust, smuts, etc. The patient need not fear going out of doors in any weather if clad warmly.

N.B.—The patient *himself* is the *greatest gainer* by the above precautions, as his recovery is retarded and frequently prevented by renewed infection derived from his own expectoration.

6.—Persons in good health have no reason unduly to fear the infection of consumption. *Over-fatigue, intemperance, bad air, dusty occupations and dry ill-ventilated and badly (sun) lighted rooms* favour it.

ANNUAL REPORT

OF THE

PUBLIC ANALYST

TO THE

NORWICH URBAN SANITARY AUTHORITY,

For the Year ending 31st December, 1905.

In presenting my tenth Annual Report as Public Analyst for the City of Norwich, I have the honour to state that during the year ending December, 31st, 1905, 194 samples were submitted to me for analysis by the Inspectors under the Sale of Food and Drugs Act.

The samples were submitted during the year as under :—

			Total.	Adulterated.
1st Quarter	..	..	28	5
2nd	„	..	33	3
3rd	„	..	64	11
4th	„	..	69	10
			—	—
Total for the year	..		194	29

The articles submitted and the results of analysis were as follows :—

ARTICLE.					Genuine.	Adulterated.	Total.
Milk	..	..	..	..	101	25	126
Butter	..	..	..	..	20	..	20
Cheese	..	..	..	..	9	..	9
Coffee	..	..	..	..	3	..	3
Chicory	..	..	..	..	3	..	3
Pepper	..	..	..	..	5	..	5
Malt Vinegar	..	..	..	..	3	3	6
Baking Powder	..	..	..	..	7	..	7
Golden Syrup	..	..	..	..	3	..	3
Jam	..	..	..	..	6	..	6
Ice-cream	..	..	..	..	3	..	3
Brandy	..	..	..	..	2	1	3
Total for the year ..					165	29	194

15 per cent., therefore, of all the samples taken, and nearly 20 per cent of the milks purchased were not up to the required standard. As in former Reports, I tabulate, for the purposes of comparison, the percentages of adulteration in Norwich for the last five years side by side with the figures for England and Wales as a whole :—

Norwich.	1901	1902	1903	1904	1905	England & Wales, 1904
Total percentage of adulteration ..	32.4	23.7	18.8	20.0	15.0	8.5
Percentage of Milks adulterated ..	40.9	31.0	22.7	28.3	19.84	11.1

65 per cent. of the samples taken were milks. This is not an undue proportion, taking into consideration the extreme importance of milk as an article of food, the serious consequences of any deficiency in its quality to children and invalids, and the great ease with which it can be adulterated. The above table shows that the amount of sophisticated milk on sale in Norwich is still much above the average, though it is satisfactory to be able to record that in 1905, for the first time in ten years, the proportion of milk samples condemned fell below one in five. 34 per cent. of added water and 27 per cent. of fat deficiency respectively were the worst cases of adulteration met with. It is satisfactory that no prosecutions for the addition of preservatives to milk were necessary during the year.

Three samples of "malt vinegar" submitted were not derived from malt at all, but were merely dilute acetic acid coloured and flavoured.

No inspection of drugs was made under the Sale of Food and Drugs Act. In the previous year one-third of the drugs submitted proved to be unsatisfactory, whilst in England and Wales as a whole the percentage of adulteration of drugs was higher than that of milk.

33 samples of water from wells in the city were analysed. Of these 13 were condemned as injurious to health and unfit for drinking purposes.

W. LINCOLNE SUTTON.



REPORT

OF THE

CHIEF SANITARY INSPECTOR.

HEALTH DEPARTMENT,
MUNICIPAL BUILDINGS,
NORWICH, 1906.

TO THE MEDICAL OFFICER OF HEALTH.

DEAR SIR,

The following is a synopsis of the principal work carried out during the year ending December 31st, 1905.

4,942 Nuisances detected.

525 Notices served by order of the Health Committee.

1,312 Preliminary Notices served.

21,296 Premises re-inspected.

3,151 Nuisances have been abated.

4,452 Special complaints have been received and the premises inspected.

449 Letters sent in order to obtain the abatement of nuisances.

147 References to the City Engineer.

191 References to the Water Works Company.

The following are the principal matters that have been dealt with :—

744	Orders served to provide efficient closets.
583	„ „ repair defectively paved yards.
482	„ „ provide efficient privy pans and dust receptacles.
459	„ „ cleanse and unstop yard drains.
284	„ „ repair or disconnect rain water pipes.
108	„ „ remove and cease to keep animals.
192	„ „ efficiently trap yard drains with gullies.
123	„ „ repair defective water closets.
82	„ „ cleanse dirty houses.
100	„ „ remove foul accumulations.
73	„ „ repair defective eaves gutters.
51	„ „ repair defective house roofs, floors, &c.
45	„ „ abate overcrowding.
43	„ „ disconnect sink waste pipes over gullies.
10	„ „ empty and cleanse foul cesspools.

PRIVY CONVERSIONS.

Private owners continue to convert privies into water closets without notice from the Corporation. During the past year 174 privies have been so converted.

INFECTIOUS DISEASES.

793 visits have been paid to infected premises.

450 rooms have been disinfected upon the removal or recovery of the patient.

Liquid and power carbolic disinfectants have, as in former years, been given to the householders gratuitously in all cases of infectious disease, and for disinfecting purposes generally.

HOUSE TO HOUSE INSPECTION.

856 Houses and premises have been visited.

1,976 Nuisances were detected.

YARD AND COURT INSPECTION.

8,268 Visits have been paid to yards and courts.

The privies and yards found dirty were cleansed at the request of the Inspectors. Other sanitary defects found are dealt with under the term "Nuisances," in a preceding column.

SLAUGHTER HOUSES.

2,955 Visits have been paid to slaughter-houses.

It was found necessary to caution several occupiers of slaughter-houses respecting the dirty condition of the walls and floors, and the non-removal of refuse in accordance with the Slaughter-House Bye-laws.

MARKETS.

The Fishmarket has been visited and inspected daily, and the Vegetable, Fruit, and Provision Markets on Market Days.

The Inspectors on duty every Saturday evening for the purpose of inspecting the meat, poultry, fish, &c., exposed for sale in the Provision Market, and for examining articles of food exposed for sale in the poorer parts of the City, have on several occasions, found it necessary to deal with various articles of food which were in a condition unfit for the food of man, and such articles have been included in the undermentioned list of unsound food.

UN SOUND FOOD.

The following have been destroyed as being unfit for human food, with the consent of the owners :—

- 2 Carcases of Beef.
- 2 Carcases of Mutton.
- 1½ Carcases of Pork.
- 1 Hind Quarter of Beef.
- 1 Flank of Beef.
- 1 Rump of Beef.
- 1 Ox Tongue.

41	Ox Livers.
3	Ox Heads.
2	sets of Ox Lungs.
1	Pig's Liver.
8	Peds of Shrimps.
9	Boxes of Shrimps.
3	Barrels of Shrimps.
7	Bags of Shrimps.
4	Tubs of Shrimps.
3	Flats of Shrimps.
5½	Bags of Cockles.
20	Boxes of Dried Haddocks.
18	Boxes of Smelts.
8	Baskets of Smelts.
2	Skirts of Beef.
4	Tins of Lobster.
3	Kits of Stockerbait and Small Roker.
25	Boxes of Dried Codlings.
1	Box of Crayfish.
16	Boxes of Smoked Whiting.
6	Boxes of Raisins.

PROCEEDINGS UNDER THE SALE OF FOOD AND DRUGS ACTS.

The number of samples purchased and submitted for analysis during the year were 194.

In 15 cases proceedings were taken against vendors of adulterated milk :—

In all the above cases the magistrates convicted, and imposed fines varying from 6s. and 8s. costs to £3 and 9s. costs.

In 19 cases the vendors were written to and cautioned.

Particulars of the prosecutions are given below :—

No.	Date.	Adulteration.	Article.	Fine.
179	March 30th	34 per cent added water	Milk	£3 and 7s. costs
182	„ „	15 „ fat deficient	„	25s „ 8s. „
188	„ „	4½ „ added water	„	6s. „ 8s. „
205	May 11th	12 „ fat deficient	„	10s „ 7s. „
220	June 8th	9 „ „ „	„	£1 „ 9s. „
223	July 6th	15½ „ added water	„	£2 „ 7s. „
244	October 9th	11 „ „ „	„	10s. „ 8s „
247	„ „	27 „ fat deficient	„	£2 „ 7s. „
249	„ „	3½ „ added water	„	10s.
269	„ 12th	17 „ „ „	„	£2 „ 7s „
271	„ „	9½ „ „ „	„	£3 „ 9s. „
273	„ „	14 „ „ „	„	£2 „ 7s. „
300	Nov. 6th	13 „ fat deficient	„	30s. „ 8s. „
314	„ „	7 „ „ „	„	£1 „ 7s. „
366	Febry. 8th, 1906.	7 „ added water	„	£1 „ 7s. „

On July 6th a milk seller was fined £2 and 8s. costs for obstructing the Assistant Inspector.

On September 28th a large trading firm were fined 10s. and 23s. costs, for exposing for sale 48 tins of condensed milk unfit for human consumption.

On October 10th a milk seller was fined £2 and 8s. costs for refusing to supply the Assistant Inspector.

On December 5th a milk seller was fined £1 and 11s. 6d. costs for refusing to supply the Assistant Inspector.

WATER ANALYSIS.

33 Samples of Water have been taken from pumps and draw wells

12 Samples were certified to be “ unfit for drinking purposes,” and injurious to health.

21 Samples were certified "Passable."

The property where samples were uncertified to be "unfit for drinking purposes" have been provided with the Water Works Company's Water

INSUFFICIENT WATER SUPPLY.

In 54 cases notices have been served on owners to provide their premises with a proper supply of water.

COWSHEDS, DAIRIES, AND MILKSHOPS.

336 Visits have been paid to Cowsheds, and
426 to Milkshops and Dairies.

The Cowsheds, etc., have been limewashed at the request of the Inspectors.

COMMON LODGING-HOUSES.

The Common Lodging-Houses have been visited weekly, and were found to be conducted in a fairly satisfactory manner.

HOUSES LET IN LODGINGS.

406 Visits have been paid to houses let in lodgings, and
235 rooms have been limewashed.

MEETINGS OF OWNERS.

498 Meetings of owners have been held.

OFFENSIVE TRADES.

150 Inspections have been made of premises where offensive trades are carried on.

SMOKE OBSERVATIONS.

534 Smoke Observations have been taken.

It has been necessary to caution several manufacturers and firemen, and recommend the use of a better class of coal and the exercise of greater care in firing.

On October 24th proceedings were taken against a Railway Company. for permitting a Smoke Nuisance, and the case was adjourned *sine die* pending an appeal in a similar case in London.

BAKEHOUSE INSPECTION

317 Visits have been paid to Bakehouses, and
180 have been limewashed by order of the Inspectors.

MARGARINE ACT.

451 Inspections have been made of premises to see if Margarine was sold, and where such was the case to see that the requirements of the Margarine Act were carried out.

FACTORIES AND WORKSHOPS.

Total number of Workshops in the City, 692.

Number of New Workshops inspected, 21.

Total number of Factories in the City, 286.

Number of Outworkers Premises visited by Male Inspectors, 762.

The undermentioned are the insanitary conditions that have been dealt with at the above class of premises :—

29 Water Closets have been provided.

156 Workshops and Workrooms have been cleansed and lime-washed.

8 Workshops Drains have been reconstructed.

5 Workshops Floors have been repaired.

1 Foul Urinal has been abolished.

SCAVENGING.

During the year 12,986 Loads of Privy Bin Refuse were removed by the Night Waggon, and 14,803 Loads of House Refuse by the Dust Waggon in the daytime.

7,120 Loads of Refuse were destroyed at the New Mills Depot.

I am, Dear Sir,

Obediently yours,

JOSEPH BROOKS,

Chief Sanitary Inspector.

